APPENDIX D - SCOPING SUMMARY

LOCAL INTEGRATED WATER SUPPLY PLAN
for the City of Wichita

SCOPING SUMMARY
for the
ENVIRONMENTAL IMPACT STATEMENT

BACKGROUND

The City of Wichita Water and Sewer Department provides potable water to approximately 350,000 people. The sources of this water are Cheney Reservoir, the Equus Beds Well Field, and the Local Well Field. From these sources, the City has an average delivery capacity of 78 million gallons per day (mgd) and a maximum delivery capacity of 160 mgd. In 1991, a water shortfall was projected for the City by the year 1996. Responding immediately, the City completed improvements to existing surface water and groundwater supply sources and modified operations to optimize use and conserve water resources. These actions delayed the projected shortfall to the year 2016. By 2050, average and maximum daily demands are projected to be 112 and 223 mgd, respectively, assuming a 16 percent reduction in demand can be obtained through conservation. To meet these demands, the City proposes to develop an additional average and maximum daily delivery capacity of approximately 40 mgd and 100 mgd, respectively.

Historically, the City's mix of water sources has been heavily dependent on groundwater, particularly from the Equus Beds. During the last 60 years, withdrawal of water from the Equus Beds for agricultural, industrial, municipal, and domestic use has exceeded recharge. As a result, the water table as dropped about 40 feet from its historic static level and saltwater contamination from adjacent formations is moving into the aquifer. Therefore, another goal of any new water development project is to reduce the City's dependence on groundwater and thereby allow for the replenishment of the Equus Beds aquifer and protection of it's water quality.

Previous studies identified 27 alternatives to meet the City's future water supply needs. After consideration of factors such as potential supply, cost, public policy, legal issues, environmental impacts, and water quality; one alternative was selected as the most feasible. This alternative, the Integrated Local Water Supply Plan (ILWSP), specifies the development and enhancement of multiple, local sources of water. Actions to be taken include increasing the capacity of the existing local well field; redeveloping the Bentley Reserve well field; increasing the amount of water taken from Cheney Reservoir; and diverting high flows in the Little Arkansas River on an as-available basis. The capacity of the local well fields would be expanded by placing additional wells along the Little Arkansas River and the Wichita-Valley Center floodway. The Bentley Reserve Well Field would be redeveloped. This well field is located about 22 miles north of Wichita along the Arkansas River and was abandoned because of high chloride content. Water from this well field would be blended with low chloride content water to create an increased quantity of water of acceptable quantity. Construction of additional pumping capacity would allow the City to make full use of its

water right in Cheney Reservoir. Surface water and induced infiltration would be extracted from the Little Arkansas River during periods of above base river flow such that occur in the spring or after storm events. Because this water would not necessarily be needed when it is available, it would be treated as necessary, then stored in the Equus Beds aquifer in the vicinity of the City's existing water wells.

With all sources combined, this alternative would provide an additional 40 mgd of average-day capacity and 100 mgd of maximum-day capacity and could meet demand through the year 2050. Because of the greater use of surface water, the plan would also provide for recharge of the Equus Beds. Water in the Equus Beds would then be available during extended dry periods when surface water is limited. The availability of water from multiple sources under local control should minimize the chances for water shortages.

An integral part of the water supply plan is water conservation. In order to meet projections, the plan requires a 16 percent reduction in water use rates attributable to conservation. This will be accomplished by the use of water-efficient plumbing fixtures, a full-scale plumbing fixture retrofit program, and implementation of an inclined block rate structure which rewards those who use less water with lower rates.

SCOPING PROCESS

The National Environmental Policy Act (NEPA) requires a process of environmental analysis, consultation, and disclosure be followed when actions to be taken by the federal government, such as construction, funding, or permitting, could produce environmental impacts. The process is intended to identify the significant potential impacts to the human and natural environment and provide an opportunity for interested individuals, organizations, and government agencies to participate in the analysis. For actions with a high probability of significant adverse environmental impact, the centerpiece of NEPA analysis is the environmental document, an Environmental Assessment or an Environmental Impact Statement. The primary mechanism for public participation under NEPA is the scoping process. The purpose of the scoping process is to identify the significant environmental issues that require study, sort out insignificant issues, and thereby focus the scope of the environmental document.

Normally, the federal government agency with the most involvement in a particular project would lead the NEPA process. In the case of the ILWSP, no federal agency has as of yet stepped forward to take the lead. This does not preclude the possibility that a federal agency may invoke and lead the NEPA process for this project in the future. The City, in conjunction with Groundwater Management District No. 2, therefore, has determined that it is in the best interest of the public to proceed with an environmental analysis according to NEPA guidelines despite the lack at this time of a federal lead agency.

Over the past five years, while the City has developed the ILWSP and implemented an Equus Beds Groundwater Recharge demonstration project, the public and government agencies have been kept informed through public meetings, tours, press releases, monthly and annual progress reports, project reports, and formal agency consultations. In early October 1997, through published and broadcast public notices, press releases, and direct mail, the City invited the public and federal, state,

and local agencies to participate in the scoping process for the ILWSP's environmental document.

Three public meetings were held on October 20, 21, and 22, 1997 in Wichita, Cheney, and Halstead, Kansas, respectively, to solicit input on the scope of the Environmental document. A total of 36 individuals attended these meetings. Attendees had the opportunity to view displays about the proposed plan and the framework for the environmental document, ask questions about and discuss the plan with knowledgeable representatives from the City and the City's design and environmental consultant, and register their comments and suggestions concerning the proposed plan and the environmental document. The public was also invited to submit written comments by mail or fax by November 22, 1997.

Three similar meetings were held for cooperating government agencies. The first was held in Wichita on October 21, 1997 and was attended by representatives of the U.S. Bureau of Reclamation (USBOR), the Kansas Corporation Commission, the Kansas Department of Agriculture-Division of Water Resources, the Kansas Department of Health and Environment (KDHE), the Kansas Water Office, Groundwater Management District No. 2, and the Sedgwick County Conservation District. The second meeting was held in Kansas City, Missouri on November 5, 1997 and was attended by the U.S. Environmental Protection Agency (EPA), the U.S. Geological Survey, and KDHE. The third meeting was held in Emporia, Kansas on November 6, 1997 and was attended by the U.S. Fish and Wildlife Service (USFWS) and the Kansas Department of Wildlife and Parks. Agency representatives provided initial comments at these meetings and were requested to submit written comments by November 22, 1997.

SUMMARY OF COMMENTS

The following summary is organized along the lines of the NEPA process and the environmental document. The first section contains comments on public participation and the environmental document process. Subsequent comments are grouped into categories that correspond to major sections of the environmental document: purpose and need, alternatives, current environmental conditions and impacts, and mitigation. The last section of the summary contains comments beyond the scope of the environmental document.

Based on public and agency comments received, 66 issues were identified. Of these, 42 were considered highly significant and will be discussed in detail in the environmental document, 16 were considered less significant and will be briefly discussed in the environmental document, and 8 were considered beyond the scope of the environmental document. Highly significant issues are identified with a ★. Table D-1 identifies the section numbers in the EIS that relate to the significant issues listed below.

PUBLIC AND AGENCY PARTICIPATION AND THE ENVIRONMENTAL DOCUMENT

1) Create a public repository for project information so that the public will know where to go to get more information.
2) Create a Citizens Advisory Panel to interact with the City on this important issue.
3) Maintain close coordination with USBOR during the plan formulation process especially in regards to changes in the operation of Cheney Reservoir.

4) Consider the appropriateness of doing an Environmental Assessment instead of an Environmental Impact Statement as the environmental document.
5) Include in the environmental document a description of informal and formal consultation with the USFWS.

PURPOSE AND NEED

No comments.

ALTERNATIVES

1) ★Raise the price of water to encourage conservation.
2) ★Reduce demand for water by reducing lawn watering through changes in building codes to specify low-water use grasses and prohibit in-ground sprinkler systems.
3) Recharge Equus Beds with low-head dams on the Little Arkansas River.
4) Foster the wise use of water by creating an office and regulatory structure to penalize people for the miss-use of water.
5) The City should sponsor research into the development of techniques to recover water from sources that are currently considered unfeasible.
6) Make a commitment to developing use for gray water to reduce the use of treated water.
7) Conserve groundwater resources by regulating, through permitting, private water wells on private property.

ENVIRONMENTAL CONDITIONS AND IMPACTS

Geology and Soils
1) Address impacts of groundwater removal or recharge on land subsidence and well collapse

Water Quantity
1) ★Expansion of the local well field could decrease the water table for those with private water wells in north-west Wichita.
2) ★Address effect on streamflow in the North Fork Ninnescah River (NFNR) below Cheney Reservoir.
3) ★Quantify, through hydrologic analysis, changes in hydrology in the Little Arkansas and Arkansas rivers including: duration of bankful conditions, duration of out-of-bank flows, increased baseflow from a recharged Equus Beds, and flow duration curve.

4) ★Estimate the impacts of hydrologic changes in the Little Arkansas, Arkansas, and North Fork Ninnescah rivers on bedload transport and channel morphology.
5) ★Establish minimum, seasonally variable, flow releases from Cheney Reservoir.
6) ★Estimate changes in Equus Beds groundwater levels under different scenarios of storage, usage, and precipitation patterns.
7) ★Describe changes in the hydrology of Cheney Reservoir including storage volumes (total and for the various sub-pools), water level, surface area in terms of average changes and degree of fluctuation.

Water Quality

1) ★Expansion of well field could disturb a hazardous groundwater site near 57th St. and Broadway
2) ★Address impacts on water quality in the NFNR caused by changes in streamflow below Cheney Reservoir.
3) ★Address source water protection for the City's investments at Cheney Reservoir and the Equus Beds.
4) ★Address the potential intrusion of a plume of highly saline water into the Equus Beds aquifer from the Burrton area.
5) ★Address impacts of high atrazine content in Little Arkansas River water.
6) ★Address the impact of induced infiltration on the water quality of the Local Well Field caused by increased withdrawal from the Local Well Field.
7) ★Expanded use of the Bentley Well Field could induce greater infiltration of high saline waters.
8) ★Address impacts on the concentrations of arsenic and other trace elements in ground and surface waters.
9) Manage groundwater quality in the Equus Beds by not exceeding maximum drawdown target level and by the establishment of a more detailed groundwater sampling network between the Equus beds and the Burrton and Nikkel groundwater contamination sites; groundwater sample analysis should be expanded to include organic constituents.
10) ★Estimate changes in water quality in Cheney Reservoir and NFNR below Cheney Reservoir.
11) Expand riparian areas to improve surface water quality in agricultural areas.

Water Rights

1) ★Address the interplay of water rights under the ILWSP, notably conjunctive use opportunities and constraints.
2) ★Describe the contractual relationship between the City and the USBOR relative to water from and the operation and ownership of Cheney Reservoir.
3) It is not necessary to address the issue of a water rights banking system for the Equus Beds.

Vegetation and Wetlands

1) ★Riparian and wetland vegetation could be adversely impacted by lowering groundwater levels in the Wichita-Valley Center Floodway.
2) ★Estimate impacts on bank stability, riparian wetlands, riparian vegetation, and oxbow lakes associated with the Little Arkansas, Arkansas, and North Fork Ninnescah rivers.
3) ★Estimate impacts on wetlands of recharging the Equus Beds including changes in water depth and duration of saturation.

4) ★Address changes in aquatic vegetation in Cheney Reservoir.
5) ★Quantify the changes in the amount of area and length of NFNR inundated above Cheney Reservoir and affected vegetation communities as a result of the proposed changes in operation of the reservoir.
6) ★Potentially affected wetlands should be identified and delineated pursuant to methodology of the Corps of Engineers, Natural Resources Conservation Service, and EPA.

Fish and Wildlife

1) ★Address impacts to fisheries, riparian wildlife, and their habitats in the Little Arkansas River, the North Fork Ninniscah River, and Cheney Reservoir caused by changes in flow or water level fluctuations.
2) ★Estimate fish mortality caused directly by water withdrawal from the Little Arkansas River and Cheney Reservoir.
3) ★Address impacts to shorebirds, waterfowl, warblers, and woodpeckers caused by changes in operation of Cheney reservoir.
3) ★Address impacts to fisheries and wildlife management practices including scheduled drawdowns and moist-soil management caused by changes in operation of Cheney reservoir.
4) Assess impacts of changes in Cheney Reservoir operation on white bass runs up the NFNR.

Species of Special Concern

1) ★Assess impacts to and describe any needed mitigation for federal threatened and endangered species including bald eagle, peregrine falcon, least tern, piping plover, and whopping crane.
2) ★Address impacts to and describe any needed mitigation for the Arkansas darter, Arkansas River shiner, and speckled chub which occur or have designated critical habitat in NFNR downstream of Cheney Reservoir.
3) ★Assess impacts to and describe any needed mitigation for state threatened or endangered species including white-faced ibis and snowy plover.
4) ★Prepare and submit to USFWS a Biological Assessment if potential impacts to federally listed and candidates species are identified.
5) Include a description of USFWS's Biological Opinion on threatened or endangered species, if applicable.
6) ★Include a plan to enhance, mitigate, or reduce adverse impacts to threatened or endangered species.

Socioeconomics

1) ★Address impacts that changes in the operation of Cheney Reservoir could have on recreation at the lake and NFNR including boating, swimming, water skiing, sailing, angling, wildlife appreciation, hiking, horse back riding, camping, hunting, trapping, and shooting.
2) ★Changes in operation at Cheney Reservoir could affect the original cost allocation of the reservoir project and repayment obligations.
3) ★Address the positioning of Wichita as a major hub of regional water supply as a result of the enhanced water supply developed under the ILWSP.
4) ★How will groundwater mounding in the Equus Beds impact local land owners and water users.
5) ★Address the physical and economic impacts of changes in operation of Cheney reservoir on lake-side facilities and infrastructure such as recreation related structures and sales.

6) ★Evaluate potential impacts to Land and Water Conservation Fund properties including state parks, state wildlife areas, county parks, and city parks.

Aesthetics

1) ★Address the impacts of changes in Cheney Reservoir operations on aesthetics such as views of exposed dead trees, mudflats, and water clarity.

BEYOND THE SCOPE OF THE ENVIRONMENTAL DOCUMENT

1) Reduce the demand for water by practicing active reproduction control on a certain disadvantaged segment of the population of Wichita.
2) Government attitude that water is a commodity does not foster a commitment to conservation.
3) Water should not be a commodity used for bartering to secure annexation.
4) Government and community leaders need to accept the "reality of limits" and that the availability of water can set limits on economic and residential growth.
5) Area governments need to provide incentives, positive and negative, that encourage the protection of surface and ground water quality through measures such as erosion control, proper yard chemical application, and plugging abandoned water wells.
6) Remain vigilant for invasion by zebra mussels.
7) Evaluate the selling of millions of gallons of water to Pepsi for bottled water.
8) Promote legislation that guarantees irrigation farmers will not be penalized for conserving water by having their vested water rights or allotment reduced if they do not use it all.

FUTURE PUBLIC INVOLVEMENT

The draft Environmental document is tentatively scheduled to be completed and available for public comment in late 1999. It is possible that public meetings will be held at that time to present the findings. If you have any questions about the scoping or NEPA process, please contact:

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Table D-1 EIS Section Numbers for Significant Issues Identified During Scoping

SIGNIFICANT ISSUES	SECTION REFERENCE
ALTERNATIVES	
1) Raise the price of water to encourage conservation.	1.3.4, 2.3.1
2) Reduce demand for water by reducing lawn watering through changes in building codes to specify low-water use grasses and prohibit in-ground sprinkler systems.	1.3.4, 2.3.1
ENVIRONMENTAL CONDITIONS AND IMPACTS	
Water Quantity	
1) Expansion of the local well field could decrease the water table for those with private water wells in northwest Wichita.	2.3.3, 4.4.2.1.2
2) Address effect on streamflow in the North Fork Ninnescah River (NFNR) below Cheney Reservoir.	4.4.1.2.3
3) Quantify, through hydrologic analysis, changes in hydrology in the Little Arkansas and Arkansas rivers including: duration of bankfull conditions, duration of out-of-bank flows, increased baseflow from a recharged Equus Beds, and flow duration curve.	4.4.1.2.1, 4.4.1.2.2
4) Estimate the impacts of hydrologic changes in the Little Arkansas, Arkansas, and North Fork Ninnescah rivers on bedload transport and channel morphology.	4.4.1.2.1, 4.4.1.2.2, 4.4.1.2.3
5) Establish minimum, seasonally variable, flow releases from Cheney Reservoir.	4.4.1.2.3
6) Estimate changes in Equus Beds groundwater levels under different scenarios of storage, usage, and precipitation patterns.	4.4.2.1.1
7) Describe changes in the hydrology of Cheney Reservoir including storage volumes (total and for the various sub-pools), water level, surface area in terms of average changes and degree of fluctuation.	4.4.1.2.3, 4.4.1.3.4
Water Quality	
1) Expansion of well field could disturb a hazardous groundwater site near 57th St. and Broadway	4.4.2.1.2
2) Address impacts on water quality in the NFNR caused by changes in streamflow below Cheney Reservoir.	4.4.1.4.3
3) Address source water protection for the City s investments at Cheney Reservoir and the Equus Beds.	4.4.1.4.4
4) Address the potential intrusion of a plume of highly saline water into the Equus Beds aquifer from the Burrton area.	4.4.2.2.1
5) Address impacts of high atrazine content in Little Arkansas River water.	3.3.1.4, 4.4.1.4.1
6) Address the impact of induced infiltration on the water quality of the Local Well Field caused by increased withdrawal from the Local Well Field.	4.4.2.2.2
7) Expanded use of the Bentley Well Field could induce greater infiltration of high saline waters.	4.4.2.2.3
8) Address impacts on the concentrations of arsenic and other trace elements in ground and surface waters.	4.4.1.4.1
9) Estimate changes in water quality in Cheney Reservoir and NFNR below Cheney Reservoir.	4.4.1.4.3, 4.4.1.4.4
Water Rights	
1) Address the interplay of water rights under the ILWSP, notably conjunctive use opportunities and constraints.	2.3.4, 3.3.3, 4.4.3
2) Describe the contractual relationship between the City and the USBOR relative to water from and the operation and ownership of Cheney Reservoir.	1.3.3.2, 2.3.4

Vegetation and Wetlands	
1) Riparian and wetland vegetation could be adversely impacted by lowering groundwater levels in the Wichita-Valley Center Floodway.	4.7.1, 4.16
2) Estimate impacts on bank stability, riparian wetlands, riparian vegetation, and oxbow lakes associated with the Little Arkansas, Arkansas, and North Fork Ninnescah rivers.	4.4.1, 4.4.2, 4.7.1, 4.7.2
3) Estimate impacts on wetlands of recharging the Equus Beds including changes in water depth and duration of saturation.	4.7.1
4) Address changes in aquatic vegetation in Cheney Reservoir.	4.4.1.3.4, 4.4.1.4.4
5) Quantify the changes in the amount of area and length of NFNR inundated above Cheney Reservoir and affected vegetation communities as a result of the proposed changes in operation of the reservoir.	4.4.1.3.4, 4.15
6) Potentially affected wetlands should be identified and delineated pursuant to methodology of the Corps of Engineers, Natural Resources Conservation Service, and EPA.	2.4, 3.6.1, 4.7.1
Fish and Wildlife	
1) Address impacts to fisheries, riparian wildlife, and their habitats in the Little Arkansas River, the North Fork Ninnescah River, and Cheney Reservoir caused by changes in flow or water level fluctuations.	4.4.1.3.4, 4.7.3, 4.7.4
2) Estimate fish mortality caused directly by water withdrawal from the Little Arkansas River and Cheney Reservoir.	4.4.1.3.4, 4.7.3
3) Address impacts to shorebirds, waterfowl, warblers, and woodpeckers caused by changes in operation of Cheney reservoir.	4.4.1.3.4, 4.7.3, 4.7.4
4) Address impacts to fisheries and wildlife management practices including scheduled drawdowns and moist-soil management caused by changes in operation of Cheney reservoir.	4.4.1.3.4, 4.7.3, 4.7.4
Species of Special Concern	
1) Assess impacts to and describe any needed mitigation for federal threatened and endangered species including bald eagle, peregrine falcon, least tern, piping plover, and whopping crane.	4.7.4
2) Address impacts to and describe any needed mitigation for the Arkansas darter, Arkansas River shiner, and speckled chub which occur or have designated critical habitat in NFNR downstream of Cheney Reservoir.	4.7.4.5, 4.8
3) Assess impacts to and describe any needed mitigation for state threatened or endangered species including white-faced ibis and snowy plover.	4.8.3, 4.8.4
4) Prepare and submit to USFWS a Biological Assessment if potential impacts to federally listed and candidate species are identified.	Appendix B
5) Include a plan to enhance, mitigate, or reduce adverse impacts to threatened or endangered species.	4.15, 4.16
Socioeconomics	
1) Address impacts that changes in the operation of Cheney Reservoir could have on recreation at the lake and NFNR including boating, swimming, water skiing, sailing, angling, wildlife appreciation, hiking, horse back riding, camping, hunting, trapping, and shooting.	4.4.1.3.4, 4.14
2) Changes in operation at Cheney Reservoir could affect the original cost allocation of the reservoir project and repayment obligations.	2.3.4, 4.4.1.3.4
3) Address the positioning of Wichita as a major hub of regional water supply as a result of the enhanced water supply developed under the ILWSP.	1.1, 1.2, 1.3
4) How will groundwater mounding in the Equus Beds impact local land owners and water users.	4.4.2.1.1, 4.7.1, 4.16

6) Evaluate potential impacts to Land and Water Conservation Fund properties including state parks, state wildlife areas, county parks, and city parks.	4.4.1.3.4, 4.14
Aesthetics	
1) Address the impacts of changes in Cheney Reservoir operations on aesthetics such as views of exposed dead trees, mudflats, and water clarity.	4.4.1.3.4, 4.13